



STATE OF SOUTH CAROLINA
DEPARTMENT OF EDUCATION

INEZ MOORE TENENBAUM
STATE SUPERINTENDENT OF EDUCATION

MEMORANDUM

To: District Transportation Supervisors
Area/County Supervisors and Engineering Associates

From: Marshall Casey, Director for Maintenance and Training
Office of Transportation

Date: September 27, 2004

RE: High Winds and School Buses

Each year as we encounter the hurricane season, questions arise regarding the safety of buses during periods of gusting or sustained high winds. To respond to these questions, I have tried to compile available data from various resources in determining the point at which the forces produced by high winds become critical with school buses.

These periods of inclement weather bring many factors that must be considered such as vehicle size, wind speed, wind direction, road conditions, and visibility. With these factors in mind, there are two main areas of concern:

- Operating Buses - When wind forces of 30 MPH or greater strike the side of a school bus, the forces exerted can exceed 500 pounds. Forces of this magnitude can greatly impact steering control and tracking of school buses in motion.
- Parked Buses – The overall effect of high winds on parked buses appears to be minimal. While the forces exerted from broadside winds on a school bus are substantial, in most cases, buses parked on a level surface in an open area can withstand wind forces of up to 100 MPH without danger of rollover. If, however, buses are parked on inclines, the amount of wind required to cause rollover is diminished. Buses parked on an incline of approximately 30 degrees are subject to rollover with winds in the 60 MPH range.

When consulting with school districts in your area regarding periods of high winds, please offer the following recommendations:

1. Remind drivers of the hazards of operating vehicles during periods of high winds and all of the contributing factors.
2. Limit the operation of school buses to periods with sustained winds below 30 MPH.
3. Always try to park buses in an open area and on level ground.
4. Close all windows, secure all doors, and in particular secure all roof hatches.

If other questions arise regarding this matter, please feel free to contact my office.